

TWO NEW SPECIES OF UMBELLIFERAE FROM THE SOUTHWESTERN UNITED STATES

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For a number of years the senior authors have recognized the existence of anomalous populations of Umbelliferae in western Texas and adjacent New Mexico. Herbarium specimens of these puzzling plants, usually in flower or immature fruit, have been referred to *Pseudocymopterus montanus*, a polymorphic "catch-all." A restudy of the Umbelliferae for the treatment of the family for the Manual of the Texas Flora has necessitated a review of these discordant elements. Adequate fruiting material is now filed in herbaria and it is apparent that recognition of two species is warranted, one referable to *Aletes* and the other to *Pseudocymopterus*.

Aletes filifolius Mathias, Constance, and Theobald, sp. nov. Fig. 1. Plantae acaules vel caulescentes; foliis ternato-pinnatisectis, divisionibus filiformibus, 0.5–5.6 cm longis; pedunculis 7–38 cm longis, foliis longioribus; involucri bracteis plerumque nullis; radiis 4–21, 6–20 mm longis, involucelli bracteolis linearis vel lanceolatis; pedicellis 6–15, 1.5–5 mm longis; calycis dentes evidentibus, lanceolatis; umbelluli fructis 2–10, oblongis vel ovoideo-oblongis, 2.4–8 mm longis, 1.8–4 mm latis, costis prominentis et alatis, alis suberosis; vittae plerumque in valleculis solitariae, in commissuri 2.

Plants 2–4 dm tall, caespitose from a branching woody root crowned with old leaf sheaths, acaulescent or with 1–2 stem leaves; leaves petiolate, broadly ovate in general outline; blades 2.5–20 cm long, 2.5–14 cm broad, ternately-pinnately decompose, the ultimate divisions filiform, 0.5–5.6 cm long, 1–2 mm broad; petioles 2.5–15 cm long; peduncles 7–38 cm long, longer than the leaves, scaberulent at the base of the umbel; bracts of involucre usually wanting; rays 4–21, 6–20 mm long, spreading-ascending; bractlets of involucel linear to lanceolate, 2–5 mm long, free to slightly connate at base, rarely reduced to one; pedicels 6–15, 1.5–5 mm long; calyx-teeth evident, lanceolate; petals yellow, ovate with a narrower inflexed apex; styles slender, spreading, stylopodium lacking; disk present; fruits in each umbellet 2–10, oblong to ovoid-oblong, 2.4–8 mm long, 1.8–4 mm broad, the dorsal and lateral ribs prominent and corky-winged, wings pale yellow to white, rarely inconspicuous; vittae large, mostly solitary in the intervals, 2 on the commissure; seed subterete in transection, at times slightly channeled under the vittae; the face more or less plane; sclerenchymatous cells inconspicuous.

Type: Moist soil on ledge along stream, north fork, North McKittrick Canyon, Guadalupe Mts., Culberson Co., Texas, 18 Aug. 1946, *Correll 13961* (US 2178785–holotype, LL-isotype).

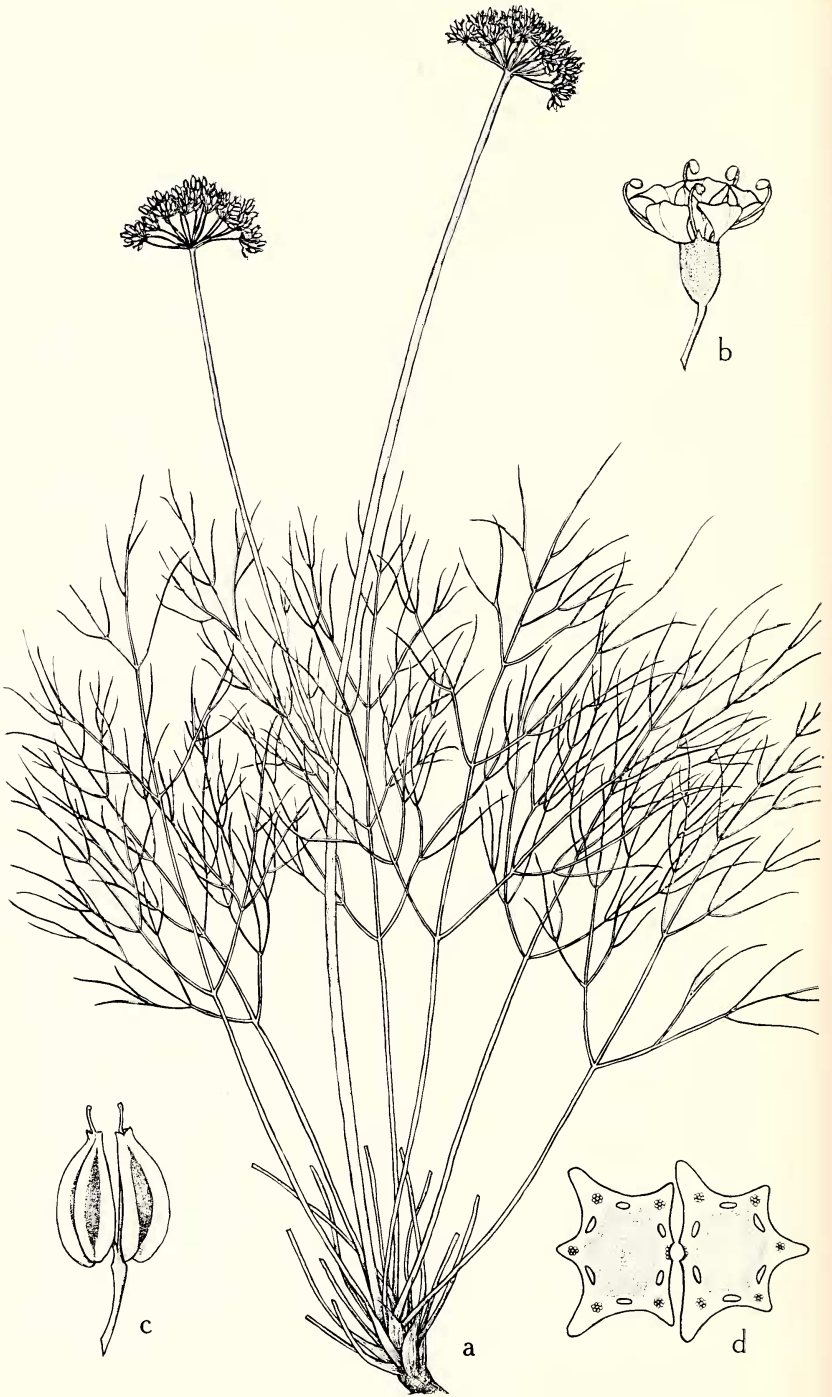
Distribution: Mountains of western Texas and southern and south-central New Mexico.

Representative Specimens. TEXAS: Brewster Co.: frequent on limestone north slopes of Altuda Mt., 10 mi SE of Alpine, Del Norte Mts., 4500 ft., 8 June 1948, *Warnock 7833* (LL, MICH, SMU, UC); abundant near top of Baldy Peak, Glass Mts., 13 July 1940, *Warnock W297* (UC). Culberson Co.: moist shaded bluffs, upper McKittrick Canyon, Guadalupe Mts., 2140 m, 22 July 1931, *Moore & Steyermark 3573* (GH, MICH, MO, UC, US); scarce among boulders, bed of 1st narrow canyon off west side of North McKittrick Canyon, Guadalupe Mts., 1575 m, 16 July 1945, *McVaugh 7413* (LL, MICH, UC); vicinity of Frijole Post Office, 5000-9500 ft, 4 Aug. 1930, *Grassl 166* (MICH); Pine Springs Canyon, Guadalupe Mts., 7 Sept. 1961, *Correll & Johnston 24272* (LL); numerous and scattered on the banks and in the bed of the creek in Pine Spring Canyon and north McKittrick Canyon, 6800 ft, 2 June 1949, *Hinckley & Hinckley 11* (US); McKittrick Can., 28 June 1939, *Lehman* (GH); growing in sand about rock, narrow canyon floor, North Fork of McKittrick Canyon, Guadalupe Mts., 25 July 1957, *Correll & Johnstone 18496* (LL). Jeff Davis Co.: dry rocky places, Little Aguja Canyon, Davis Mts., 1765 m, 17 June 1931, *Moore & Steyermark 3136* (GH, MO, UC).

NEW MEXICO: Dona Ana Co.: deep east-west canyon above Dripping Springs, 6300-7300 ft, 28 July 1952, *Dunn 8436* (UC); Filmore Canyon, Organ Mountains, 26 May 1905, *Wooton* (UC, US); Van Patten's, Organ Mts., 9 June 1906, *Standley* (MO, US), 16 July 1902, *Wooton* (US), 29 Aug. 1894, *Wooton* (US). Eddy Co.: Carlsbad, 4 June 1924, *Lee 154* (US). Grant Co.: Big Hatchet Mts., 17 May 1892, *Mearns 39* (US); Sycamore Creek, 13 Aug. 1902, *Wooton* (US). Socorro Co.: lower valley of Tulerosa River, 30 Aug. 1905, *Hough* (US).

The genus *Aletes* was revised recently by Theobald, Tseng, and Mathias (1964) who recognized five species occurring in the southwestern United States. *Aletes filifolius* is readily distinguishable from the other members of the genus on the basis of habit and basic leaf pattern. It is the only caulescent species, usually with one or two stem leaves, and a ternately-pinnately decompound leaf blade. The other five members of the genus are acaulescent and have pinnate or bipinnate leaves. Nevertheless, on the basis of other vegetative characteristics, and especially in floral and fruit characters, all of these taxa form a distinct and coherent genus.

Aletes acaulis, the most widespread taxon and type species of the genus, also occurs in western Texas. Both it and *A. filifolius* are known from similar habitats on canyon slopes, canyon bottoms, and in rocky crevices in the mountains and in several instances have been reported from the same vicinity. As noted above they are readily distinguishable from each other by their foliage characters.



It is expected that *A. filifolius* will be recorded from adjacent Mexico. Several collections from that area are possibly referable to it but confirmation must await the collection of more mature fruiting material.

Pseudocymopterus longiradiatus Mathias, Constance, and Theobald, sp. nov. Fig. 2. Plantae caulescentes, foliis caulis 1–3, ternatopinnatisectis, divisionibus ovatis vel oblongis, lobatis, lobis obovatis vel lineari-oblongis, 2–14 mm longis; pedunculis 13–49 cm longis, foliis longioribus; radii 8–18, patentibus, 17–58 mm longis, pedicellis 12–25, 2–6 mm longis; umbelluli fructis 2–12, ovoideo-oblongis vel oblongis, 6–9 mm longis, costis lateralibus late alatis, alis membranaceis vel spongiosis; vittae in valleculis solitariae, in commissuris 2.

Plants 3–9 dm tall from a long taproot, caulescent with 1–3 stem leaves, rarely acaulescent; leaves petiolate, ovate-oblong to broadly ovate in general outline, 4.5–15 cm long, 3.5–13 cm broad, ternate-pinnately decomposed; the ultimate divisions ovate to oblong in outline, pinnately lobed to parted, the lobes obovate to linear-oblong, 2–14 mm long, 1.5–4 mm broad, acute to distinctly acuminate; petioles 4.5–15 cm long; peduncles terminal or axillary, 13–49 cm long, longer than the leaves, scaberulent to hirtellous-pubescent at the base of the umbel; bracts of involucre usually wanting; rays 8–18, 17–58 mm long, spreading; bractlets of involucre linear-lanceolate, 3–11 mm long, free to slightly connate at base, longer or shorter than the flowers; pedicels 12–25, 2–6 mm long; calyx teeth evident, ovate to deltoid, often with a pale or colored margin; petals pale cream-yellow, ovate with a narrower inflexed apex; styles slender, spreading, stylopodium lacking; disk present; fruits in each umbellet 2–12, ovoid-oblong to oblong, 6–9 mm long, 3–5 mm broad, flattened dorsally or appearing terete due to wings, wings membranous or spongy, linear to triangular in transection; vittae large, solitary in the intervals, 2 on the commissure; the seed face more or less plane; sclerenchymatous cells absent.

Type: In sandy soil under maples and oaks by dry stream bank, Upper McKittrick Canyon, 6000 ft, Guadalupe Mts., Culberson Co., Texas, 22 June 1947, *Meyer & Meyer 2186* (UC 758246–holotype; MO-isotype).

Distribution: Mountains of western Texas and southern New Mexico.

Representative specimens. TEXAS: Brewster Co.: infrequent on northeast limestone slopes of Mt. Ord, 15 mi S of Alpine, Gage Estate, 4650 ft, 23 May 1949, *Warnock & Turner 8645* (LL). Culberson Co.: wooded bluff, locally abundant, 1st narrow canyon off west side of North McKittrick Canyon, Guadalupe Mts., 1575 m, 16 July 1945, *McVaugh 7414* (LL, UC); moist soil in cool canyon, Guadalupe Mountains, steep canyon on southeast slope of Pine Top Mountain, 15 Aug.

FIG. 1. *Aletes filifolius*: a, habit, $\times \frac{1}{2}$; b, flower at anthesis, $\times 10$; c, mature fruit, lateral view, $\times 5$; d, mature fruit, transection, $\times 8$.

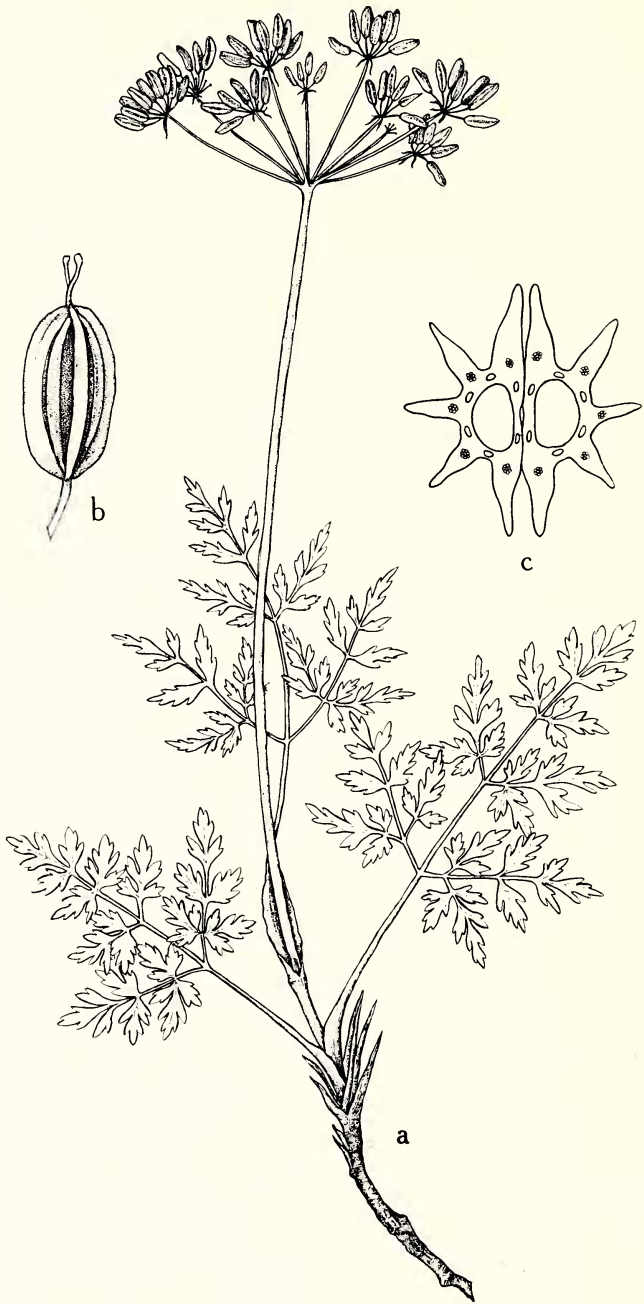


FIG. 2. *Pseudocymopterus longiradiatus*: a, habit, $\times \frac{1}{2}$; b, mature fruit, dorsal view, $\times 3$; c, mature fruit, transection, $\times 8$.

1946, *Correll 13904* (LL); under maples, south fork of McKittrick Canyon, Guadalupe Mountains, 30 April 1962, *Correll & Ogden 25055* (LL); under oaks, South Fork of McKittrick Canyon, Guadalupe Mts., 2 July 1958, *Correll & Johnstone 19161* (LL); crevices of cliffs, north-facing canyon, about 9 miles north of Van Horn, 24 April 1961, *Correll & Rollins 23805* (LL); on flats, vicinity of Frijole Post Office, 8000 ft, 10 Aug. 1930, *Grassl 134* (MICH); woods near spring, canyon, east side of Guadalupe Peak, 7500-8000 ft, 29 May-4 June 1912, *Chase 5980* (MICH). Jeff Davis Co.: dry grassy shaded canyon slope, Little Aguja Canyon, Davis Mountains, 1550 m, 17 June 1931, *Moore & Steyermark 3131* (GH, MICH, MO, UC); abundant on slopes in shaded bottom, branch canyon to east just above pass, Wild Rose Pass, about 15 mi NE of Ft. Davis, 10 April 1947, *McVaugh 7891* (MICH).

NEW MEXICO: Otero Co.: west of Mt. Park in an old apple orchard surrounded by pinyons and rather dense oak thicket about 12 ft. tall, along the road to Cloudcroft, ca 6800 ft, 28 June 1952, *Dunn 8097* (LA); Alamo (Lincoln) National Forest, Haynes Canyon, in forest of Douglas spruce and rock pine, 10 Aug. 1911, *Barlow* (MO).

Pseudocymopterus has been a difficult genus to delimit. For a number of years it has been treated as monotypic with the single highly variable species, *P. montanus*. Studies now in progress indicate that several taxa may warrant recognition within this complex. *Pseudocymopterus longiradiatus* can be distinguished by the much longer rays, the larger fruit with larger vittae, and the ternate-pinnately decompound leaves. *Pseudocymopterus montanus* in western Texas is reported only from Mt. Livermore at elevations from 6000 to 8000 feet while *P. longiradiatus* occurs at generally lower elevations in both the Davis and Guadalupe Mountains.

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